

CLEAN VERSION OF THE ENTIRE SET OF CLAIMS

1 (Amended) 1. An apparatus comprising:

2 a cache management logistics to control a transfer of a trace;

3 a first cache coupled to the cache management logistics to evict the trace based on a
4 replacement mechanism; and

5 a second cache coupled to the cache management logistics to receive the evicted trace
6 based on a first number of accesses to the trace.

1 2. The apparatus of claim 1 wherein the trace has a usage counter, the usage counter
2 being used to count the number of accesses to the trace.

1 3. (Amended) The apparatus of claim 2 further comprising a comparator to compare
2 a first threshold value to the number of accesses to the trace, the first threshold value being a first
3 fixed number or a first dynamically adjusted number.

1 4. The apparatus of claim 3 wherein the trace is transferred from the first cache to
2 the second cache when the first threshold value is less than the number of accesses to the trace.

1 5. The apparatus of claim 3 wherein the trace is discarded from the first cache when
2 the first threshold value is more than or equal to the number of accesses to the trace.

1 6. The apparatus of claim 4 further comprising a level 2 (L2) cache to receive the
2 trace, the trace being transferred to the first or second cache for execution.

1 7. The apparatus of claim 6 wherein trace is transferred from the second cache to the
2 L2 cache when a second threshold value is less than a second number of accesses to the trace, the
3 second threshold value being fixed or dynamically adjusted.

1 8. (Amended) The apparatus of claim 4 wherein the trace is discarded from the
2 second cache when a second threshold value is more than a second number of accesses to the
3 trace, the second threshold value being a fixed number or a dynamically adjusted number.

1 9. The apparatus of claim 8 wherein the second number of accesses to the trace is a
2 number of accesses to the trace counting from a time the trace first enters the first cache.

1 10. The apparatus of claim 1 wherein the replacement mechanism is a Least Recently
2 Used (LRU) mechanism.

1 11. (Amended) A method comprising:
2 controlling a transfer of a trace;
3 evicting the trace based on a replacement mechanism using a first cache; and
4 receiving the evicted trace based on a first number of accesses to the trace using a second
5 cache.

1 12. The method of claim 11 further comprising counting the first number of accesses
2 to the trace.

1 13. (Amended) The method of claim 12 further comprising comparing a first
2 threshold value to the number of accesses to the trace, the first threshold value being a first fixed
3 number or a first dynamically adjusted number.

1 14. The method of claim 13 further comprising transferring the trace from the first
2 cache to the second cache when the first threshold value is less than the number of accesses to
3 the trace.

1 15. The method of claim 13 further comprising discarding the trace from the first
2 cache when the first threshold value is more than or equal to the number of accesses to the trace.

1 16. The method of claim 14 further comprising receiving the trace by the second level
2 (L2) cache, the trace being transferred to the first or second cache for execution.

1 17. The method of claim 16 further comprising transferring the trace to the L2 cache
2 when a second threshold value is less than a second number of accesses to the trace, the second
3 threshold value being fixed or dynamically adjusted.

1 18. (Amended) The method of claim 14 further comprising discarding the trace when
2 a second threshold value is more than a second number of accesses to the trace, the second
3 threshold value being a fixed number or a dynamically adjusted number.

1 19. The method of claim 18 wherein the second number of accesses to the trace is a
2 number of accesses to the trace counting from a time the trace first enters the first cache.

1 20. The method of claim 11 wherein the replacement mechanism is a Least Recently
2 Used (LRU) mechanism.

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1 21. (Amended) A system comprising:
2 an execution unit; and
3 a cache unit couple to the execution unit to provide the execution unit a trace, the cache
4 unit comprising:
5 a cache management logistics to control a transfer of the trace;
6 a first cache coupled to the cache management logistics to evict the evicted trace based
7 on a replacement mechanism; and
8 a second cache coupled to the cache management logistics to receive the trace based on a
9 first number of accesses to the trace.

1 22. The system of claim 21 wherein the trace has a usage counter, the usage counter
2 being used to count the number of accesses to the trace.

1 23. (Amended) The system of claim 22 further comprising a comparator to compare
2 a first threshold value to the number of accesses to the trace, the first threshold value being a first
3 fixed number or a first dynamically adjusted number.

1 24. The system of claim 23 wherein the trace is transferred from the first cache to the
2 second cache when the first threshold value is less than the number of accesses to the trace.

1 25. The system of claim 23 wherein the trace is discarded from the first cache when
2 the first threshold value is more than or equal to the number of accesses to the trace.

1 26. The system of claim 24 further comprising a level 2 (L2) cache to receive the
2 trace, the trace being transferred to the first or second cache for execution.

1 27. The system of claim 26 wherein trace is transferred from the second cache to the
2 L2 cache when a second threshold value is less than a second number of accesses to the trace, the
3 second threshold value being fixed or dynamically adjusted.

al 1 28. (Amended) The system of claim 24 wherein the trace is discarded from the
2 second cache when a second threshold value is more than a second number of accesses to the
3 trace, the second threshold value being a fixed number or a dynamically adjusted number.

1 29. The system of claim 28 wherein the second number of accesses to the trace is a
2 number of accesses to the trace counting from a time the trace first enters the first cache.

1 30. The system of claim 21 wherein the replacement mechanism is a Least Recently
2 Used (LRU) mechanism.
